

Abstract

Disclosed is a method for evaluating, during a welding process, a welded joint as it is forming between at least two parts of a joint using at least one ultrasonic transmitter sound penetrating the region of the forming welded joint with ultrasonic waves and at least one ultrasonic receiver, which registers the changes in sound transmittance of the ultrasonic waves penetrating the region of the forming welded joint in order to evaluate the welded joint.

The invention is distinguished by sound being transmitted with longitudinal (l) and transverse(t) ultrasonic waves into the region of the welded joint, the time-dependent changes in sound transmittance $D_l(t)$, $D_t(t)$ of the longitudinal ultrasonic waves (l) and the transverse ultrasonic waves (t) being registered separately, and using the ratio of $D_l(t)$ to $D_t(t)$, the time point t_s at which a molten mass forms in the region of the welded joint being determined and serving as a basis for evaluating the welded joint.